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Jonathan D. Beard, FRCS, ChM, Editor-in-Chief and Piergiorgio Cao, MD, Senior Editor

Preliminary Ten Year Results from a Randomised Single Centre Mass Screening Trial for Abdominal Aortic Aneurysm

Lindholt J.S., Juul S., Fasting H., Henneberg E.W.. Eur J Vasc Endovasc Surg 2006;32:608-14.

Background At present, several regions and countries are considering screening for abdominal aortic aneurysm (AAA). However, The Chichester Aneurysms Screening Trial has reported poor long term benefit of screening for AAA. We therefore supplement previously published data with a preliminary analysis of the ten-year mortality from AAA, based upon population-based data until 2002 (7 years) and incomplete hospital-based information on deaths until 2005 (10 years).

Methods and material In 1994 we started a randomised screening trial of 12,639 64–73 year-old males; 6,306 were controls, and 6,333 were invited to an abdominal ultrasound scan at their district hospital. Information on all deaths until 15.3.2005 was obtained from the Office of Civil Registration. Information on AAA related deaths was obtained from the national registry of Causes of Deaths from 1.4.1994 to 31.12.2001, and supplemented with AAA deaths known to the Danish National Patient Registry until 15.3.2005. Operations were obtained from the Danish National Vascular Registry from 1.4.1994 to 15.3.2005.

Death certificates and medical records were reviewed by two independent assessors. The analyses were based on "intention to treat" from the date of randomisation.

Results The attendance rate was 76.6% and 191 (4.0%) had an AAA. The median observation time was 9.58 years. In the invited group 13 subjects were acutely operated on compared to 40 in the control group (Risk ratio: 0.32 (95% C.I. 0.17–0.60, $P<0.001$)), and 14 died due to AAA compared to 51 in the control group (Hazard ratio: 0.27 (95% C.I.: 0.15–0.49, $P<0.001$).

Conclusion Over ten years, screening reduced mortality from AAA by 73%, and the frequency of emergency operations by 68%.

From Innumeracy to Insight: The Uncertainty of Help versus Harm in Treatment of Asymptomatic Aortic Aneurysms

Legemate D.A., Bossuyt P.M.. Eur J Vasc Endovasc Surg 2006;32:620-23.

There is insufficient evidence that the surgical treatment of asymptomatic infrarenal aneurysms >5.5 cm. is beneficial to patients. This is the result of serious complications of aneurysm surgery and the dearth of information from randomized trials. Based on evidence from the literature we defined scenarios and translated data into natural frequency trees to improve understanding of the uncertainty of help versus harm due to treatment of aneurysms.

Our analysis shows that the majority of patients can expect little on longevity from surgery while they are at risk of dying from surgery or suffering from serious morbidity.

We conclude that, as long as uncertainty persist, patients should be treated in hospitals that can show very low surgical mortality and major morbidity rates. To further resolve the problem of uncertainty randomized trials for larger aneurysms should be performed. Important issues to discuss are the lower and upper limits of the diameter of the aneurysms and the age and risk profiles of the patients to be included in such trials.

Long-term Results of Primary Stent Placement to Treat Infrarenal Aortic Stenosis

Simons P.C.G., Nawijn A.A., Bruijninckx C.M.A., Knippenberg B., de Vries E.H., van Overhagen H.. Eur J Vasc Endovasc Surg 2006;32:627-33.

Objective To determine the safety and the long-term results of primary stent placement for localized distal aortic occlusive disease.

Design Retrospective observational study.

Patients and Methods From July 1998 to July 2005 17 patients (14 female and 3 men, mean age 57 years (39–80)) were treated for intermittent claudication. Five of these patients underwent additional endovascular treatment of focal iliac lesions.

Results Technical success defined as residual stenosis of less than 50% or a trans-stenotic systolic pressure gradient <10% was achieved in 14 of 17 (82%) patients. Major complications included dissection at the puncture site in one patient and thrombosis of additional iliac stents in another patient. Both of these complications were successfully treated. During a mean follow-up of 27 months (range 1–86), four patients had recurrence of symptoms due to in-stent restenoses (n=2), femoral (n=1) or iliac occlusion (n=1), respectively. By Kaplan-Meier analysis, primary aortic hemodynamic patency was 83% at 3 years. Secondary aortic hemodynamic patency was 100%. The primary clinical patency was 68% at 3 years.

Conclusion Primary stent placement for distal aortic stenoses is an alternative to surgical treatment because of its high patency and relatively low complication rates.

Hand-assisted Laparoscopy Versus Conventional Median Laparotomy for Aortobifemoral Bypass for Severe Aorto-iliac Occlusive Disease: A Prospective Randomised Study

Fourneau I., Sabbe T., Daenens K., Nevelsteen A.. Eur J Vasc Endovasc Surg 2006;32:645-50.

Objectives To demonstrate that hand-assisted laparoscopy for aorto-femoral bypass for severe aorto-iliac occlusive disease reduces morbidity with earlier recovery of bowel function and shorter in-hospital stay.

Design Randomised controlled trial.

Materials and methods Thirty-six consecutive patients with severe aorto-iliac occlusive disease (TASK C/D) without history of major abdominal surgery necessitating an aortobifemoral bypass were randomised between a hand-assisted laparoscopic (HALS) approach and a conventional medial laparotomy. Operative data, early recovery data, quality of life and vascular outcome were analysed.

Results No significant differences in operative data were found. Fluid and solid diet were resumed earlier (28.8 hrs vs. 76.9 hrs; $p=0.016$) (45.6 hrs vs. 105.6 hrs; $p=0.02$) and in-hospital stay was shorter (7.5 vs. 8.9 days; $p=0.005$) in the HALS group. Six weeks post-operatively social functioning measured by the SF-36survey score was better in patients randomised to HALS ($p=0.023$).

Conclusions HALS is a less invasive approach for aortofemoral bypass.

The PADHOC Device is a Better Guide to the Actual Incapacity Suffered by Claudicants than the Gold Standard Constant Load Treadmill Test

Coughlin P.A., Kent P.J., Berridge D.C., Scott D.J.A., Kester R.C.. Eur J Vasc Endovasc Surg 2006;32:651-56.

Background The Constant Load Treadmill Test (CLTT) is currently the primary method used to measure walking impairment in patients with peripheral vascular disease. The aim of this study was to compare the CLTT and PADHOC device as assessments of walking impairment.

Methods 55 patients with intermittent claudication underwent a CLTT and a Double Physiological Walking Test (DPWT) using the PADHOC device. Health-related quality of life was measured using the Short Form 36 and the Claudication Scale.

Results The initial claudication and maximum walking distance from the first part of the DPWT showed the best correlation with domains of pain and physical function.

Conclusions The DPWT is more representative of the functional incapacity experienced by patients with intermittent claudication. We believe that the PADHOC is a suitable alternative to the CLTT in the assessment of this patient group.

Ultrasonic Endarterectomy for Long Superficial Femoral Artery Atherosclerotic Occlusive Disease

Pokrovsky A.V., Savrasov G.V., Danilin E.I., Chepelenko G.V., Antusevas A.F., Kavaliauskiene Z.. Eur J Vasc Endovasc Surg 2006;32:657-62.

Objective To report the long term results of ultrasonic superficial femoral artery endarterectomy (USFAE).

Design Retrospective study.

Patients and methods From January 1998 to June 2004 218 USFAE were performed in 202 selected patients (178 males, 192 procedures) with a median age of 65 years (46-87 years). Indications for operation were disabling intermittent claudication in 137 procedures (68%), rest pain in 24 procedures (12%), and limb salvage in 41 procedures (20%). The new medical technology of ultrasonic endarterectomy is based on the application of the mechanical vibrations in the range of low frequency ultrasound. The ultrasonic device consists of the ultrasonic generator, acoustic unit and the flexible wave concentrators with special working tips in the shape of a ring.